

**Maryland Historical Trust  
State Historic Sites Inventory Form**

MARYLAND INVENTORY OF  
HISTORIC PROPERTIES

Survey No. M29-53

Magi No. M: 29-52-2

DOE   yes   no

**1. Name** (indicate preferred name)

historic Instrument House, David Taylor Model Basin

and/or common Building #106, Naval Surface Warfare Center Carderock Division

**2. Location**

street & number 9500 MacArthur Blvd.    not for publication

city, town Bethesda N/A vicinity of    congressional district 8th

state Maryland county Montgomery

**3. Classification**

| Category  | Ownership  | Status   | Present Use   |
|---|--|--|---|
| <input checked="" type="checkbox"/> district    | <input checked="" type="checkbox"/> public         | <input type="checkbox"/> occupied                    | <input type="checkbox"/> agriculture <input type="checkbox"/> museum            |
| <input checked="" type="checkbox"/> building(s) | <input type="checkbox"/> private                   | <input type="checkbox"/> unoccupied                  | <input type="checkbox"/> commercial <input type="checkbox"/> park               |
| <input type="checkbox"/> structure              | <input type="checkbox"/> both                      | <input checked="" type="checkbox"/> work in progress | <input type="checkbox"/> educational <input type="checkbox"/> private residence |
| <input type="checkbox"/> site                   | <b>Public Acquisition</b>                          | <b>Accessible</b>                                    | <input type="checkbox"/> entertainment <input type="checkbox"/> religious       |
| <input type="checkbox"/> object                 | <input type="checkbox"/> in process                | <input checked="" type="checkbox"/> yes: restricted  | <input type="checkbox"/> government <input type="checkbox"/> scientific         |
|   | <input type="checkbox"/> being considered          | <input type="checkbox"/> yes: unrestricted           | <input type="checkbox"/> industrial <input type="checkbox"/> transportation     |
|   | <input checked="" type="checkbox"/> not applicable | <input type="checkbox"/> no                          | <input checked="" type="checkbox"/> military <input type="checkbox"/> other:    |

**4. Owner of Property** (give names and mailing addresses of all owners)

name United States Navy

street & number 9500 MacArthur Blvd. telephone no.: 301-227-1896

city, town Bethesda state and zip code Maryland, 20817

**5. Location of Legal Description**

courthouse, registry of deeds, etc. Land Records Office    liber

street & number Montgomery County Courthouse    folio

city, town Rockville state Maryland

**6. Representation in Existing** Historical Surveys

title NSWC-CD Historic and Archeological Resources Protection Plan

date 1/97 ☒ federal ☐ state ☐ county ☐ local

depository for survey records Maryland Historical Trust

city, town Crownsville state Maryland

## 7. Description

Survey No. M29-53

### Condition

☐ excellent  
☒ good  
☐ fair

☐ deteriorated  
☐ ruins  
☐ unexposed

### Check one

☐ unaltered  
☒ altered

### Check one

☒ original site  
☐ moved date of move \_\_\_\_\_

Prepare both a summary paragraph and a general description of the resource and its various elements as it exists today.

SEE CONTINUATION SHEET

## 8. Significance

Survey No. ~~M29-53~~ M:29-52-2

| Period                                    | Areas of Significance—Check and justify below   |   |   |  |
|---|---|---|---|--|
| <input type="checkbox"/> prehistoric      | <input type="checkbox"/> archeology-prehistoric | <input type="checkbox"/> community planning     | <input type="checkbox"/> landscape architecture | <input type="checkbox"/> religion        |
| <input type="checkbox"/> 1400-1499        | <input type="checkbox"/> archeology-historic    | <input type="checkbox"/> conservation           | <input type="checkbox"/> law                    | <input type="checkbox"/> science         |
| <input type="checkbox"/> 1500-1599        | <input type="checkbox"/> agriculture            | <input type="checkbox"/> economics              | <input type="checkbox"/> literature             | <input type="checkbox"/> sculpture       |
| <input type="checkbox"/> 1600-1699        | <input type="checkbox"/> architecture           | <input type="checkbox"/> education              | <input checked="" type="checkbox"/> military    | <input type="checkbox"/> social/         |
| <input type="checkbox"/> 1700-1799        | <input type="checkbox"/> art                    | <input checked="" type="checkbox"/> engineering | <input type="checkbox"/> music                  | <input type="checkbox"/> humanitarian    |
| <input type="checkbox"/> 1800-1899        | <input type="checkbox"/> commerce               | <input type="checkbox"/> exploration/settlement | <input type="checkbox"/> philosophy             | <input type="checkbox"/> theater         |
| <input checked="" type="checkbox"/> 1900- | <input type="checkbox"/> communications         | <input type="checkbox"/> industry               | <input type="checkbox"/> politics/government    | <input type="checkbox"/> transportation  |
|   |   | <input type="checkbox"/> invention              |   | <input type="checkbox"/> other (specify) |

### Specific dates

### Builder/Architect

check: Applicable Criteria: ☒ A ☐ B ☒ C ☐ D  
and/or

Applicable Exception: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G

Level of Significance: ☒ national ☐ state ☐ local

Prepare both a summary paragraph of significance and a general statement of history and support.

SEE CONTINUATION SHEET

## 9. Major Bibliographical References

Survey No. ~~M29-53~~

M:29-52-2

SEE CONTINUATION SHEET

## 10. Geographical Data

Acreage of nominated property N/AQuadrangle name Falls Church, VA

Quadrangle scale \_\_\_\_\_

UTM References do NOT complete UTM references

A 

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|      |         |  |  |          |  |  |  |  |  |
| Zone | Easting |  |  | Northing |  |  |  |  |  |

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### Verbal boundary description and justification

NSWC-CD Historic District is bounded to the south and west by MacArthur Blvd.  
and Clara Barton Parkway to the south.

### List all states and counties for properties overlapping state or county boundaries

| state | code | county | code |
|-------|------|--------|------|
| state | code | county | code |

## 11. Form Prepared By

name/title Lex F. Campbell, Historic Preservation Plannerorganization R. Christopher Goodwin & Associates, Inc. date June 26, 1998street & number 241 East Fourth St., Suite 100 telephone 301-694-0428city or town Frederick state Maryland, 21701

The Maryland Historic Sites Inventory was officially created by an Act of the Maryland Legislature to be found in the Annotated Code of Maryland, Article 41, Section 181 KA, 1974 supplement.

The survey and inventory are being prepared for information and record purposes only and do not constitute any infringement of individual property rights.

return to: Maryland Historical Trust  
Shaw House  
21 State Circle  
Annapolis, Maryland 21401  
(301) 269-2438

MARYLAND HISTORICAL TRUST  
DHCP/DHCD  
100 COMMUNITY PLACE  
CROWNSVILLE, MD 21032-2023  
514-7600

## Summary Description

### Instrument House (Building #106)

The Instrument House is a one-story poured concrete building that terminates in a flat, built-up roof defined by parapet walls. A metal ventilator protrudes from the roof. The structure adopts a rectangular footprint and is partially bermed into the side of a hill; the north elevation fully is exposed. The north elevation exhibits a single entry well that contains a replacement metal door unit.

The interior of the instrument house exhibits an open rectangular plan with an exposed concrete floor. The walls are finished with wood paneling. The building includes electrical outlets and is illuminated by florescent ceiling units. All original equipment associated with the test pond has been removed and the building is currently unoccupied. A concrete stairway located at the east-end of the building provides access to the concrete test pond deck.

Building 106 is associated with the explosives test pond complex. The structure is oriented directly north of a 12' deep, pentagonal, concrete, explosives test pond. In 1943, the instrument house (Building 106) and the test pond (Facility 134) were constructed to augment experiments performed in an adjacent research pit (Facility 105). The primary use of the test pond was to perform underwater tests on mines and other explosive devices, such as small charges of TNT, to simulate the effects of underwater blasts. Building 106 served as a storage facility for instruments used in explosives testing.

The test pond complex is located at the Naval Surface Warfare Center Naval Surface Warfare Center Carderock Division (NSWCCD) which occupies a 183.6 acre tract of land in the Potomac River Valley, in Carderock, Maryland. NSWCCD is located approximately 12 miles northwest of Washington, D.C., along the northern bank of the Potomac River. The installation is bordered to the south by the Clara Barton Parkway and to the north and east by MacArthur Boulevard. The installation comprises 116 buildings and structures. Of these 116 built resources, forty-four buildings, including Building 106, have been identified as contributing resources to the NSWCCD Historic District.

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M: 29-52-2

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Instrument House  
NSWCCD  
Carderock, Maryland  
Section 7.2

Research laboratories, administration facilities, and operations and utility structures are the main components of the installation. The overall facility achieves architectural unity through its integrated layout and building design. At the center of the installation is an interconnected complex that includes an administration building, a shop building, a laboratory and the David Taylor Model Basin. The Model Basin was listed in the National Register of Historic Places in 1985 (Allison 1984).

The majority of buildings and facilities added to the installation after the initial construction of the model basin complex were the direct result of research programs assigned to the installation. Areas of research undertaken at the installation involved *underwater explosive testing*, aeronautical research, and hydrodynamical research.



### Significance

The Instrument House is a contributing element to the Naval Surface Warfare Center Carderock Division (NSWCCD) Historic District (MIHP # 29-52). The building is associated with the explosives test pond, a testing facility designed to perform underwater tests on mine and other explosive devices. The instrument house originally stored equipment for underwater testing. The building is currently vacant. Proposed modifications will add a second story to the existing structure.

The NSWCCD Historic District possesses the qualities of exceptional importance defined under National Register Criterion Consideration G within the historic context of Military research, design, testing, and evaluation. In addition, NSWCCD is associated with events that have made a significant contribution to the broad patterns of military technology (Criterion A). The resources also represent an intact collection of RDT&E buildings and facilities (Criterion C). In 1938, the David Taylor Model Basin became the primary site for the research, development, and testing of models of ships and other vehicles for the U.S. Navy. As the center for naval research, design, testing, and evaluation (RDT&E), NSWCCD played a critical role in the design and development of the modern navy. The research facilities at NSWCCD have provided the U.S. Navy with accurate cost effective data of air and sea vehicle performance, and have made possible evaluative changes to improve performance, in advance of construction. The NSWCCD historic district is defined by the period of significance beginning in 1938 and extending to 1958.

NSWCCD comprises 117 buildings and facilities, and includes: administration buildings, industrial buildings and research centers. Of the 17 buildings and structures within Carderock, 67 were constructed during the period of significance (1938-1958), and include an underwater explosion laboratory; scaled subsonic, transonic, and supersonic wind tunnels; a circulating water channel; and, the David Taylor Model Basin (listed in the National Register of Historic Places in 1985). Forty-four of these buildings have been identified as contributing elements to the NSWCCD Historic District. The remaining seventy-

three resources do not retain their integrity to convey the period of significance, are not associated with the historic context or were constructed within the last fifty years and do not possess exceptional significance.

Naval Surface Warfare Center Carderock Division and the Underwater Explosives Test Pond.

During World War II, the David Taylor Model Basin was outfitted to undertake tests to seek solutions to specific war-related problems encountered by the fleet. Tests were performed to determine the characteristics of new ship designs, the hydrodynamic characteristics of torpedoes and depth charges, and the effects of structural modifications. While the capabilities of the model basin were expanded during the war, unique testing facilities and equipment also were constructed at NSWCCD. Constructed as a direct result of the programs assigned to the model basin, the new facilities increased the range of naval engineering research and testing able to be performed at the installation (Department of the Navy 1959:5).

In 1941, a research pit for explosion testing was constructed at the installation. This new facility was used primarily to study the deformation of diaphragms due to underwater explosions and the effect of gun-blasts on water-tight doors. It was also used to develop appropriate footwear to protect servicemen from land mines exploding under landing crafts (David Taylor Model Basin History 1959: 5).

In 1943, construction of a pentagonal test pond (Facility 134) and the instrument house (Building 106) allowed for the underwater testing of explosives. The small amount of explosives used in the test pond simulated the effects of full-scale underwater blasts on ships. Able to predict the effect of an underwater explosion, the Navy was able to construct ships and equipment tough enough to survive a wartime environment (Neil 1971:6). During the early post war years the test pond was used to test and predict the effects of nuclear weapons prior to full scale testing (Carlisle 1987: 6-19).



HISTORIC CONTEXT:

MARYLAND COMPREHENSIVE HISTORIC PRESERVATION PLAN DATA

- Geographic Organization: Piedmont
- Chronological/Development Period: Modern Period (1930-Present)
- Historic Period Theme: Military
- Resource Type:

Category: Building

Historic Environment: Research and Testing Laboratory Complex

Historic Function and Use: Research and Testing Laboratory Complex

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## REFERENCES

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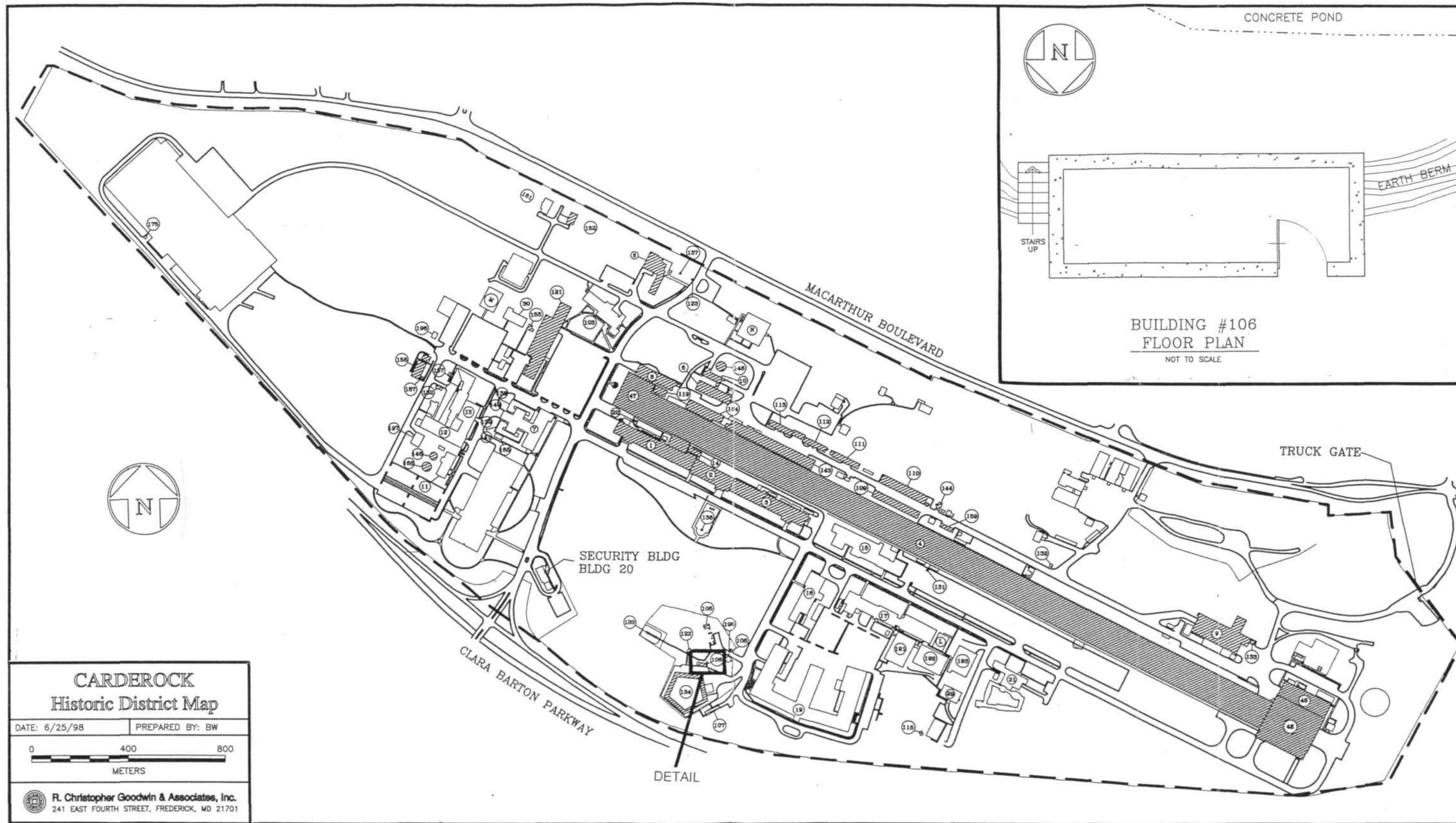
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M: 29-52-2  
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# CARDEROCK Historic District Map

DATE: 6/25/98 PREPARED BY: BW

0 400 800  
METERS

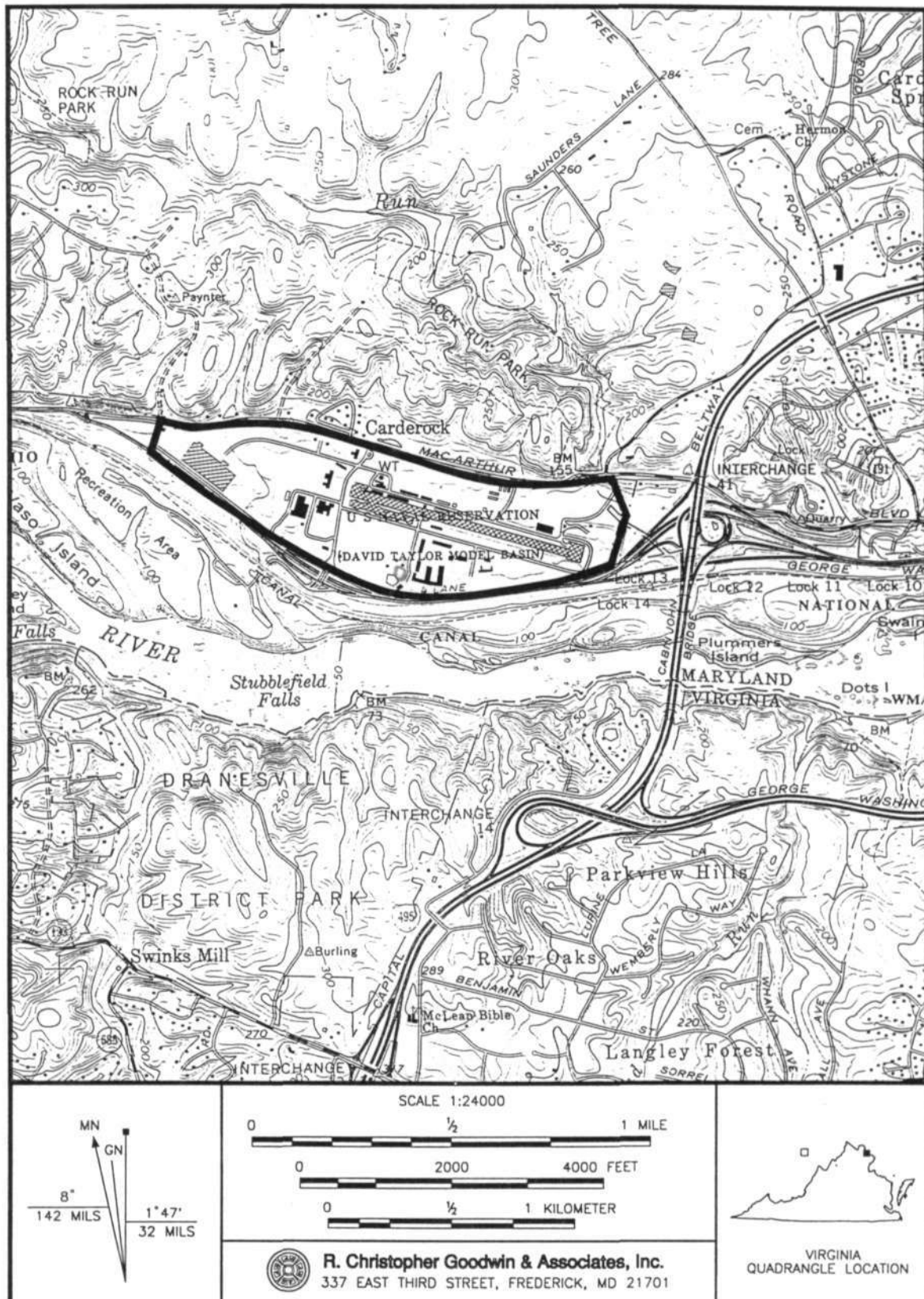


R. Christopher Goodwin & Associates, Inc.  
241 EAST FOURTH STREET, FREDERICK, MD 21701

# FALLS CHURCH QUAD

M: 29-52-2

M: 29-53



M: 29-52-2  
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## INDEX TO PHOTOGRAPHS

### Instrument House (Building #106)

Naval Surface Warfare Center Carderock Division Historic District  
Bethesda, Maryland

Photographer: Elaine Kiernan  
R. Christopher Goodwin & Associates, Inc.

- 1 of 5 View south, Instrument House with explosives testing pond in the background.
- 2 of 5 Front elevation of Instrument House facing south.
- 3 of 5 Southwest view, Instrument House.
- 4 of 5 Interior view of Instrument House.
- 5 of 5 North facing view of the test pond deck and the rooftop of the Instrument House.







INSTRUMENT HOUSE (M29-52-2)

NAVAL SURFACE WARFARE CENTER, CAROL ROCK DIVISION

MONTGOMERY COUNTY, MD

ELAINE KIERNAN

JULY 7, 1998

VIEWSOUTH

PHOTO 1 OF 5

100 26 01 NNNNN 02AU 013



INSTRUMENT HOUSE (M29-52-2)  
NAVAL SURFACE WARFARE CENTER, CARDBLOCK DIVISION  
MONTGOMERY COUNTY, MD  
ELAINE KIERMAN  
JULY 7, 1998  
VIEW SOUTH, FRONT ELEVATION  
2 OF 5

TCF 26-03 NNNNN+22AU 013



INSTRUMENT HOUSE (M29-52-2)  
NAVAL SURFACE WARFARE CENTER, CARDEROCK DIVISION  
MONTGOMERY COUNTY, MD  
ELAINE KIERMAN  
JULY 7, 1998  
VIEW SOUTHWEST  
PHOTO 3 OF 5

TCP 26-01 NNNNN+08AU 013



INSTRUMENT HOUSE (M29-52-2)  
NAVAL SURFACE WARFARE CENTER CAROLINCK DIVISION  
MONTGOMERY COUNTY, MD  
ELAINE KIBNAN  
JULY 7, 1998  
INTERVIEW  
PHOTO 4 OF 5

TOP 200 01 N445N 020W 013





INSTRUMENT HOUSE (M29-S2-2)

NAVAL SURFACE WARFARE CENTER, CARDLOCK DIVISION  
MONTGOMERY COUNTY, MD

ELAINE KIRNAN

JULY 7, 1998

NORTH FACING VIEW OF TEST POND DECK

PHOTO 3 OF 5

TCP 26:02 NNNNN-0100 013